IN THE CLAIMS:

1. (Withdrawn) A laser gain device comprising:

a laser slab for receiving pump energy and generating an output beam, said laser slab mounted within a slab housing;

at least one diode array assembly for generating said pump energy and emitting said pump energy from an energy emission region;

at least one diode array mount for supporting said at least one diode array assembly, said diode array mount having a first lever portion and a second lever portion, said first and second lever portions pivoting around a fulcrum with respect to said slab housing; and

an adjustment mechanism connected to at least one of said first and second lever portions for adjusting a pump energy angle at which said pump energy from said energy emission region impinges on said laser slab.

2. (Withdrawn) The laser gain device of claim 1 wherein said slab housing is stationary with respect to said at least one diode array mount and said adjustment mechanism comprises an adjustment screw adapted to turn within an adjustment bracket attached to said slab housing.

3. (Withdrawn) The laser gain device of claim 2 wherein said adjustment screw opposes a diode adjustment support that is biased toward an end of said adjustment screw.

4. (Withdrawn) The laser gain device of claim 3 wherein:

said first lever portion of said diode array mount is biased toward said slab housing;

said diode array assembly is mounted to said second lever portion of said diode array mount; and

said diode adjustment support is biased away from said slab housing toward said adjustment screw.

5. (Withdrawn) The laser gain device of claim 3 wherein said diode adjustment support is a pin attached to said diode array assembly.

6. (Withdrawn) The laser gain device of claim 3 wherein said diode adjustment support is adapted to move within an adjustment support slot provided in said adjustment bracket.

7. (Withdrawn) The laser gain device of claim 1 further comprising one or more diode spacers placed between said fulcrum and said slab housing for adjusting a distance between said diode array assembly and said laser slab.

8. (Withdrawn) A method for adjusting pump energy entering a laser slab comprising:

providing a laser slab within a laser slab mount, said laser slab adapted to accept said pump energy;

providing a diode array assembly having an energy emission region for emitting said pump energy at an emission angle, said diode array assembly being mounted on a diode array mount having a first lever portion and a second lever portion;

biasing one of said first and second lever portions of said diode array mount with respect to said laser slab mount; and

pivoting said first lever portion and said second lever portion around a fulcrum to adjust said emission angle of said pump energy.

9. (Withdrawn) The method of claim 8 wherein providing said diode assembly comprises aligning said emission region such that said pump energy is directed toward said laser slab.

10. (Withdrawn) The method of claim 8 wherein biasing one of said first and second lever portions of said diode array mount with respect to said laser slab mount comprises biasing a first lever portion of said diode array mount toward said laser slab mount and further wherein providing said diode array assembly comprises mounting said diode array assembly to said second lever portion of said diode array mount.

11. (Withdrawn) The method of claim 8 wherein pivoting said first lever portion and said second lever portion comprises adjusting an adjustment device against which one of said first lever portion and said second lever portion of said diode array mount is biased.

12. (Withdrawn) The method of claim 11 wherein adjusting an adjustment device comprises turning an adjustment screw.

13. (Withdrawn) The method of claim 8 further comprising adjusting a distance between said diode array assembly and said laser slab by placing or removing diode spacers between said diode array mount and said laser slab mount.

14. (Currently Amended) A laser slab housing comprising:

first and second slab housing members defining a space therebetween for accepting laser slabs of differing dimensions, said first and second slab housing members being separated by a slab housing-gap dimension and each of said first and second slab housing members being separated from said laser slab by respective first and second slab distances;

a laser slab within said space between said first and second slab housing members, said laser slab having a slab dimension; and

one or more laser slab spacers between said first and second slab housing members, lengths of said laser slab spacers defining said slab housing-gap dimension ~~and~~, said one or more slab spacers being replaceable with laser slab spacers having different lengths such that said slab housing-gap dimension is alterable and at least one of said first and second slab distances remains approximately constant when said slab dimension is changed due to a change in laser slabs. ~~for laser slabs of differing dimensions.~~

15. (Original) The laser slab housing of claim 14 further comprising at least one slab seal adapted to be compressed to a compression width between one of said first and second slab housing members and said laser slab.

16. (Original) The laser slab housing of claim 15 wherein said lengths of said laser slab spacers are chosen to maintain said compression width of said slab seal approximately constant when said laser slab is replaced with a differently-sized laser slab.

17. (Currently Amended) The laser slab housing of claim 14 in combination with ~~wherein said laser slab spacers are selected form~~ a kit of laser slab spacers having laser slab spacers of different lengths, wherein said laser slab spacers are selected from said kit of laser slab spacers.

18. (Original) The laser slab housing of claim 14 wherein said one or more laser slab spacers have apertures therein for accepting assembly pins holding said first and second slab housing members together.

19. (Original) The laser slab housing of claim 14 wherein said one or more laser slab spacers are comprised of the same material as said slab housing members.

20. (Original) The laser slab housing of claim 14 wherein said laser slab is held between said first and second slab housing members by at least one edge bar, said at least one edge bar being adapted to accept at least one of said slab spacers therethrough.

21. (Currently Amended) A method for mounting laser slabs of different dimensions comprising:

providing first and second slab housing members spaced from one another ~~at~~ by a slab housing-gap dimension ~~distance~~ and defining a slab-receiving space therebetween;

selecting at least one laser slab spacer from a plurality of laser slab spacers having a plurality of laser slab spacer lengths ~~one or more laser slab spacers~~ to provide a desired slab housing-gap dimension ~~distance~~; and

spacing said first and second slab housing~~s~~ members from one another with said selected one or more of said laser slab spacers to accommodate said laser slab.

22. (Currently Amended) The method of claim 21 wherein ~~adjusting said slab housing distance comprises increasing~~ said selecting includes choosing a longer slab spacer to increase said slab housing-gap dimension ~~distance~~ when laser slabs having a wider dimension are held within said slab-receiving space ~~and decreasing said slab housing distance when laser slabs having a narrow dimension are held within said slab-receiving space~~.

23. (Original) The method of claim 21 further comprising compressing at least one slab seal between a laser slab and at least one of said first and second slab housing members to a compression distance.

24. (Original) The method of claim 23 further comprising maintaining said compression distance for laser slabs having different dimensions by selecting and inserting slab spacers of appropriate slab spacer lengths between said first and second slab housing members.

25. (Original) The method of claim 23 further comprising mounting a laser slab in said slab-receiving space between first and second edge bars.

26. (Currently Amended) The method of claim 21 further comprising adjusting said slab housing-gap dimension ~~distance~~ by replacing said laser slab spacers with laser slab spacers having different laser slab spacer lengths.

27. (Original) The method of claim 21 further comprising holding said first and second slab housing members together with assembly pins inserted through apertures provided within said laser slab spacers.

28. (Withdrawn) A laser gain module comprising:

a laser slab adapted to receive pump energy and emit an output beam;

a pump energy source for emitting said pump energy;

gain module coolant conduits for directing coolant in said laser gain module, said coolant cooling at least one of said laser slab and said pump energy source; and

a liquid-cooled heat shield adapted to receive stray radiation from at least one of said laser slab and said pump source, said liquid-cooled heat shield comprising at least one heat shield conduit accepting said coolant from one of said gain module coolant conduits.

29. (Withdrawn) The laser gain module of claim 28 wherein said at least one heat shield

conduit is further adapted to direct said coolant toward one of said gain module coolant conduits.

30. (Withdrawn) The laser gain module of claim 28 wherein said laser slab is mounted between first and second laser slab housing blocks, at least one of said housing blocks having at least two cooling liquid conduits therein, said at least one heat shield conduit accepting coolant from one of said cooling liquid conduits of said at least one laser slab housing block and directing coolant to another of said cooling liquid conduits of said at least one laser slab housing block.

31. (Withdrawn) The laser gain module of claim 30 wherein said at least one housing block further comprises a cooling liquid diverter for directing a first portion of said coolant to said heat shield and a second portion of said coolant to said laser slab.

32. (Withdrawn) The laser gain module of claim 31 wherein approximately one gallon of coolant is directed to said heat shield for every eight gallons of coolant directed to said laser slab.

33. (Withdrawn) The laser gain module of claim 28 wherein said heat shield comprises angled or curved portions to absorb stray radiation within said laser gain module.

34. (Withdrawn) The laser gain module of claim 28 wherein said heat shield comprises a liquid-cooled heat shield base attached to one or more heat shield components adapted to absorb said stray radiation.

35. (Withdrawn) The laser gain module of claim 28 wherein said heat shield is removable from said laser gain module.

36. (Withdrawn) The laser gain module of claim 28 wherein said coolant is water.

37. (Withdrawn) A method of cooling a laser gain module having a cooling conduit for cooling at least one of a diode array and a laser slab and also for transmitting coolant to a heat shield having at least one heat shield conduit therein comprising:

directing coolant via said cooling conduit to at least one of said diode array and said laser slab;

receiving stray radiation from one of said diode array and said laser slab with said heat shield; and

directing said coolant from said cooling conduit to said at least one heat shield conduit for the removal of heat from said heat shield.

38. (Withdrawn) The method of claim 37 wherein said heat shield is removable from said laser gain module.

39. (Withdrawn) The method of claim 37 wherein said heat shield comprises a heat shield base and at least one formed heat shield component adapted to absorb radiation and wherein receiving stray radiation comprises receiving stray radiation at said at least one heat shield component.

40. (Withdrawn) The method of claim 39 wherein said formed heat shield component comprises angled or curved surfaces for receiving said stray radiation.

41. (Withdrawn) The method of claim 37 further comprising diverting a first portion of said coolant to said laser slab and a second portion of said coolant to said heat shield.

42. (Withdrawn) A system for the emission of laser light comprising:

a laser slab adapted to be pumped by pump energy from at least one pump energy source;

at least one window for accepting said pump energy, said at least one window having a slab-facing surface directed toward said laser slab;

a slab cooling conduit between said laser slab and said window for passing coolant past said laser slab; and

at least one pump energy shield provided on said slab-facing surface of said at least one window and adapted to prevent a portion of said pump energy exiting said slab-facing surface of said window from reaching said laser slab.

43. (Withdrawn) The system of claim 42 wherein said at least one pump energy shield is cooled by said coolant.

44. (Withdrawn) The system of claim 42 wherein said at least one pump energy shield is opaque.

45. (Withdrawn) The system of claim 42 wherein said at least one pump energy shield is comprised of a material selected from the group consisting of stainless steel, copper, and ceramic.

46. (Withdrawn) The system of claim 45 wherein said coolant is water.

47. (Withdrawn) The system of claim 42 wherein said at least one pump energy shield is adhesively attached to said slab-facing surface of said at least one window.

48. (Withdrawn) A method of controlling pump energy entering a laser slab comprising:

providing a laser slab for accepting pump energy from a pump energy source;

providing a window between said laser slab and said pump energy source, said window being separated from said laser slab by a laser slab cooling conduit for allowing cooling liquid to cool said laser slab; and

limiting a portion of said pump energy from entering said laser slab with at least one pump energy shield on said window between said window and said laser slab.

49. (Withdrawn) The method of claim 48 wherein said at least one pump energy shield is comprised of stainless steel and is attached to said window.

50. (Withdrawn) The method of claim 49 wherein said pump energy shield is adhesively attached to said window.

51. (Withdrawn) The method of claim 48 wherein said at least one pump energy shield comprises at least a top pump energy shield for limiting a portion of said pump energy entering along an upper edge of said window from entering said laser slab and a bottom pump energy shield for limiting a portion of said pump energy entering along a bottom edge of said window from entering said laser slab.

52. (Withdrawn) The method of claim 48 wherein said at least one pump energy shield forms a pump energy aperture through which said pump energy enters said laser slab, said method further comprising selecting a size and shape for said pump energy aperture to maintain a desired pattern of isotherms within said laser slab.

53. (Withdrawn) The method of claim 52 wherein selecting a size and shape for said pump energy aperture comprises selecting a size and shape of said pump energy aperture that produces substantially vertical isotherms within said laser slab.

54. (New) The method of claim 21, further comprising maintaining approximately constant, when said slab housing-gap dimension is changed, at least one of respective distances between said first and second slab housing members and a laser slab of said laser slabs of different dimensions.

55. (New) A method for mounting laser slabs of different dimensions comprising:

providing a housing assembly having a first slab located in a space defined by a first housing member and a second housing member, said first housing member and said second housing member being separated by a housing-gap dimension that is defined by a first spacer;

disassembling said housing assembly to remove said first slab from said space;

inserting a second slab in said space

replacing said first spacer with a second spacer such that said housing-gap dimension accommodates a difference between a first width of said first slab and a second width of said second slab; and

reassembling said housing assembly with said second slab and said second spacer.

56. (New) The method of claim 55, wherein said second spacer is selected such that said housing-gap dimension remains approximately constant.